Amendments to the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

- 1. (Currently Amended) The <u>computer mediated</u> method of simulating connectron behavior of any genome for the purpose of modifying genomic behavior comprising the computer mediated selective deletion and/or addition of connectrons and outputting the result of said selective deletion and/or addition of connectrons to a user.
- 2. (Currently Amended) The <u>computer mediated</u> method of simulating connectron behavior of a genome for the purpose of modifying, by computer, genomic behavior comprising the selective deletion and/or addition of connectrons, and providing the result of said selective deletion and/or addition of connectrons to a user.
- 3. (Withdrawn) A genome having a connectron comprised of the DNA elements C1, C2, T1 and T2, wherein at least one of said DNA elements has been deleted according to the following table

Type C1 C2 T1 T2

1 D

2 D

3

4 D 5 D D 6 D D 7 D D 8 D D D 9 D D D 10 D D D D

where D is a connectron element to be deleted or modified.

- 4. (Withdrawn) A genome having a connectron comprised of the DNA elements C1, C2, T1 and T2, wherein at least one of said DNA elements has been replaced with a synthetic DNA element.
- 5. (Withdrawn) A genome having a connectron comprised of the native DNA elements C1, C2, T1 and T2, wherein at least one of said DNA elements has been replaced with a synthetic DNA element according to the following table

Туре	C1	C2	T1	T 2
1	S	s	s	S
2	S	s	S	N
3	s	s	N	S
4	S	s	N	N
5	S	N	S	S

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6
            S
                  N
                        S
                              Ν
7
            S
                 N
                        Ν
                              S
8
            S
                 N
                        Ν
                              N
9
           N
                  S
                        S
                              S
10
           N
                  S
                        S
                              Ν
11
           N
                  S
                        Ν
                              S
12
           N
                  S
                        Ν
                              Ν
13
           N
                 N
                        S
                              S
14
           Ν
                 N
                        S
                              Ν
15
           N
                 N
                       N
                              S
```

where N is native DNA sequence and S is a synthetic DNA sequence.

6. (Withdrawn) A genome having a connectron comprised of the native DNA elements T1 and T2, wherein none, one or both of said DNA elements have been replaced with a synthetic DNA element according to the following table and where the C1 and C2 sequences are generated by the binding of a synthetic DBP according to the following table

Туре	C1	C2	T1	T 2
1	D	D	s	S
2	D	D	s	N
3	D	D	N	S
4	D	D	N	N

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where N is native DNA sequence, S is a synthetic DNA sequence and D is a synthetic DBP.

7. (Withdrawn) A genome having a connectron comprised of the native DNA elements T1 and T2, wherein none, one or both of said DNA elements have been replaced with a synthetic DNA element according to the following table and where the C1 and C2 sequences are generated by the binding of a synthetic PNA according to the following table

Туре	Cl	C2	T1	Т2
1	P	P	s	s
2	P	P	s	N
3	P	P	N	S
4	P	P	N	N

where N is native DNA sequence, S is a synthetic DNA sequence and P is a synthetic PNA.

8. (Withdrawn) A genome having a connectron comprised of the native DNA elements T1 and T2, wherein none, one or both of said DNA elements has been replaced with a synthetic DNA element according to the following table and where the C1 and C2 sequences are generated by the binding a linked pair of DNA binding elements G1 and G2 according to the following table

Туре	Cl	C2	T1	Т2
1	G1	G2	s	s
2	G1	G2	s	N
3	G1	G2	N	s
4	Gl	G2	N	N

where N is native DNA sequence, S is a synthetic DNA sequence and where G1 and G2 are a linked pair of double-strand DNA binding elements.

9. (Withdrawn) A genome having a connectron comprised of the native DNA elements C1, C2, T1 and T2, wherein one of said DNA elements has been replaced with a synthetic DNA element according to the following table

Type Element-1-Style

1 C

2 E

where C is a copied sequence element, E is an extracted sequence element.

10. (Withdrawn) A genome having a connectron comprised of the native DNA elements C1, C2, T1 and T2, wherein two of said DNA elements have been replaced with a synthetic DNA element according to the following table

	Element-1		Element-2	
Туре	Туре	Style	Туре	Style
1	Cl	С	C2	C
2	C1	С	C2	E
3	C1	E	C2	E
4	Cl	С	T1	С
5	C1	С	T1	E
6	C1	U	T1	U
7	Cl	E	T2	E
8	C2	С	T2	С
9	C2	С	T2	E
10	C2	U	T2	U
11	C2	E	T2	E
12	Tl	С	T2	С
13	T1	С	T2	E
14	T1	E	T2	E

where C is a copied sequence element, U is a unique sequence element and E is an extracted sequence element.

11. (Withdrawn) A genome having a connectron comprised of the native DNA elements C1, C2, T1 and T2, wherein three of said DNA elements have been replaced with a synthetic DNA element according to the following table

	Element-1		Element-2		Element-3	
Туре	Туре	Style	Туре	Style	Туре	Style
1	C1	С	C2	C	T1	С
2	Cl	С	C2	С	T1	E
3	C1	C	C2	Е	T1	С
4	C1	С	C2	E	T1	E
5	C1	U	C2	С	T1	U
6	C1	U	C2	U	T1	E
7	Cl	U	C2	E	T1	U
8	C1	E	C2	С	T1	С
9	C1	E	C2	С	T1	E
10	C1	E	C2	E	T1	С
11	Cl	E	C2	E	T1	E
12	C1	С	C2	С	T2	С
13	C1	С	C2	С	Т2	E
14	C1	С	C2	U	T2	U
15	C1	С	C2	E	T 2	С

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16	C1	C	C2	E	T2	E
17	C1	E	C2	C	T2	С
18	C1	E	C2	С	T2	E
19	C1	E	C2	U	T2	U .
20	Cl	E	C2	E	T2	С
21	Cl	E	C2	E	T2	E
22	C1	С	T1	С	T 2	C
23	C1	С	T1	С	T2	E
24	C1	С	Tl	E	T2	С
25	C1	С	T1	Е	T2	E
26	Cl	U	Tl	U	T2	С
27	Cl	U	T1	U	Т2	E
28	C1	E	T1	С	Т2	С
29	C1	E	Tl	С	T2	E
30	Cl	E	T1	E	Т2	С
31	C1	E	T1	E	Т2	E
32	C2	С	T1	С	Т2	C
33	C2	С .	T1	С	T2	E
34	C2	С	T1	E	T2	С
35	C2	С	T1	E	T2	E
36	C2	U	T1	С	T2	U
37	C2	U	Tl	E	T2	υ
38	C2	E	T1	С	T2	С
39	C2	E	T1	С	T2	Е

C2 E

T1

E

T2 C

41 C2 E T1 E T2 E

where C is a copied sequence element, U is a unique sequence element and E is an extracted sequence element.

12. (Withdrawn) A genome having a connectron comprised of the native DNA elements C1, C2, T1 and T2, wherein four of said DNA elements have been replaced with a synthetic DNA element according to the following table

	C1	C2	T1	T2
Туре	Style	Style	Style	Style
1	С	C .	C	C
2	С	С	С	E
3	С	С	E	С
4	С	С	E	E
5	С	U	С	U
6	С	U	E	U
7	С	E	С	С
8	С	E	С	E
9	С	E	E	C
10	С	E	E	E
11	U	С	U	С
12	U	С	U	E
13	U	U	U	U

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14	U	E	U	C	
15	U	E	U	E	
16	E	С	C	C	
17	E	С	С	E	
18	E	С	E	C	
19	E	С	E	E	
20	E	Ŭ	C	U	
21	E	U	E	ט	
22	E	E	C	C	
23	E	E	C	E	
24	E	E	E	C	
25	E	E	E	E	

where C is a copied sequence element, U is a unique sequence element and E is an extracted sequence element.